7 - REFERENCES

Ambrose, R.B., T.A. Wool, and J.L. Martin. 1993. The water quality analysis and simulation program, WASP5: Part A, model documentation version 5.1. U.S. Environmental Protection Agency, Environmental Research Laboratory, Athens, GA, 210 pp.

Andrews, D.G., and M.E. McIntyre. 1978. An exact theory for of nonlinear waves on a Lagrangian flow. *J. Fluid Mech.* 89:609-646.

Banks, R.B. and F.F. Herrera. 1977. Effect of wind and rain on surface reaeration. *ASCE J. of the Environ. Engr. Div.* 103(EE3):489-504.

Bennett, A.F. 1976. Open boundary conditions for dispersive waves. J. Atmos. Sci. 32:176-182.

Bennett, A.F., and P.C. McIntosh. 1982. Open ocean modeling as an inverse problem: tidal theory. *J. Phys. Ocean.* 12:1004-1018.

Bennett, J.R., and A.H. Clites. 1987. Accuracy of trajectory calculation in a finite-difference circulation model. *J. Comp. Phys.* 68:272-282.

Blumberg, A.F., and L.H. Kantha. 1985. Open boundary condition for circulation models. *J. Hydr. Engr.* 111:237-255.

Blumberg, A.F., and G.L. Mellor. 1987. A description of a three-dimensional coastal ocean circulation model. *Three-Dimensional Coastal Ocean Models, Coastal and Estuarine Science, Vol. 4,* ed. N.S. Heaps, pp. 1-19. American Geophysical Union.

Boni, L., E. Carpené, D. Wynne, and M. Reti. 1989. Alkaline phosphatase activity in *Protogonyaulax tamarensis*. *J. of Plankton Research* 11(5):879-885.

Boudreau, B.P. 1991. Modelling the sulfide-oxygen reaction and associated pH gradients in porewaters. *Geochimica et Cosmochimica Acta*, 55:145-159.

Bowie, G.L., W.B. Mills, D.B. Porcella, C.L. Campbell, J.R. Pagenkopf, G.L. Rupp, K.M. Johnson, P.W.H.Chan, S.A. Gherini, and C.E. Chamberlin. 1985. Rates, constants and kinetics formulations in surface water quality modeling (2nd edition). EPA/600/3-85/040, U.S. Environmental Protection Agency, Environmental Research Lab., Athens, GA, 455 pp.

Burban, P.Y., W. Lick, and J. Lick. 1989. The flocculation of fine-grained sediments in estuarine waters. *J. Geophys. Res.* 94:8323-8330.

Burban, P.Y., Y.J. Xu, J. McNeil, and W. Lick. 1990. Settling speeds of flocs in fresh and seawater. *J. Geophys. Res.* 95:18,213-18,220.

Carritt, D.E. and S. Goodgal. 1954. Sorption reactions and some ecological implications. *Deep-Sea Research* 1:224-243.

Caupp, C.L., Brock, J.T., and Runke, H.M. 1991. Application of the dynamic stream simulation and assessment model (DSSAM III) to the Truckee River below Reno, Nevada: Model formulation and program description. Report prepared by Rapid Creek Water Works for Nevada Division of Environmental Protection, Carson City and Washoe County Dept. Of Comprehensive Planning, Reno, NV.

Cerco, C.F., and T. Cole. 1993. Three-dimensional eutrophication model of Chesapeake Bay. *J. Environ. Engnr.* 119:1006-1025.

Cheng, R.T., V. Casulli, and J.W. Gartner. 1993. Tidal, residual, intertidal mudflat (TRIM) model and its applications to San Francisco Bay, California. *Estuarine, Coastal, and Shelf Science* 36: 235-280.

Chróst, R.J. and J. Overbek. 1987. Kinetics of alkaline phosphatase activity and phosphorus availability for phytoplankton and bacterioplankton in Lake Plußsee (North German eutrophic lake). *Microbial Ecology* 13:229-248.

Cline, J.D. and F.A. Richards. 1969. Oxygenation of hydrogen sulfide in seawater at constant salinity, temperature and pH. *Environmental Science & Technology*, 3(9):838-843.

Cole, T.M., and E.M. Buchak. 1994. CE-QUAL-W2: A two-dimensional laterally averaged, hydrodynamic and water quality model, Version 2.0, Report ITL-93-7. U. S. Army Corps of Engineers, Waterway Experiment Station, Vicksburg, MS.

Davis, J. 1998. Measurement of community photosynthesis and respiration rates for selected reaches of the Christina Watershed. Prepared for Pennsylvania Department of Environmental Protection and Delaware Department of Natural Resources and Environmental Control, March 1998.

Diaz, R.J. and R. Rosenberg. 1995. Marine benthic hypoxia: a review of its ecological effects and the behavioural responses of benthic macrofauna. *Oceanography and Marine Biology: an Annual Review* 33:245-303.

DiToro, D.M. 1980. Applicability of cellular equilibrium and Monod theory to phytoplankton growth kinetics. *Ecological Modelling* 8:201-218.

DiToro, D.M., P.R. Paquin, K. Subburamu, and D.A. Gruber. 1990. Sediment oxygen demand model: methane and ammonia oxidation. *ASCE J. Environ. Engr.* 116(5):945-986.

DiToro, D.M., and J.F. Fitzpatrick. 1993. Chesapeake Bay sediment flux model. Contract Report EL-93-2. Prepared by HydroQual, Inc. for U. S. EPA Chesapeake Bay Program, U. S. Army Engineer District, Baltimore, MD, and U.S. Army Engineer Waterways Exp. Station.

Frick, W.E. 1984. Non-empirical closure of the plume equations, *Atmos. Environ.* 18:653-662.

Froelich, P.N. 1988. Kinetic control of dissolved phosphate in natural rivers and estuaries: a primer on the phosphate buffer mechanism. *Limnol. and Oceanogr.* 33(4, part 2):649-668.

Galperin, B., L.H. Kantha, S. Hassid, and A. Rosati. 1988. A quasi-equilibrium turbulent energy model for geophysical flows. *J. Atmos. Sci.* 45:55-62.

Genet, L.A., D.J. Smith, and M.B. Sonnen, M.B. 1974. Computer program documentation for the dynamic estuary model. Prepared for U.S. Environmental Protection Agency, Systems Development Branch, Washington, D.C.

Grant, W.D., and O.S. Madsen. 1986. The continental-shelf bottom boundary layer. *Annual Review of Fluid Mechanics*, ed. M. Van Dyke et al., pp. 365-306, Annual Review, Inc.

Giordani, P. and M. Astorri. 1986. Phosphate analysis of marine sediments. *Chemistry in Ecology* 2:103-112.

Hamrick, J.M. 1992a. A Three-Dimensional Environmental Fluid Dynamics Computer Code: Theoretical and Computational Aspects, Special Report 317. The College of William and Mary, Virginia Institute of Marine Science. 63 pp.

Hamrick, J.M. 1992b. Estuarine environmental impact assessment using a three-dimensional circulation and transport model. Estuarine and Coastal Modeling, Proceedings of the 2nd International Conference, M. L. Spaulding et al, Eds., American Society of Civil Engineers, New York, 292-303.

Hamrick, J. M. 1994: Linking hydrodynamic and biogeochemcial transport models for estuarine and coastal waters. *Estuarine and Coastal Modeling, Proceedings of the 3rd International Conference,* ed. M.L. Spaulding et al., pp. 591-608. American Society of Civil Engineers, New York.

Hamrick, J.M. 1996. A User's Manual for the Environmental Fluid Dynamics Computer Code (EFDC), Special Report 331. The College of William and Mary, Virginia Institute of Marine Science. 234 pp.

Hamrick, J.M., and T.S. Wu. 1996. Computational design and optimization of the EFDC/HEM3D surface water hydrodynamic and eutrophication models. *Computational Methods for Next Generation Environmental Models*, ed. G. Delich. Society of Industrial and Applied Mathematics, Philadelphia.

Horner, R.R., E.B. Welch, M.R. Seeley, and J.M. Jacoby. 1990. Responses of periphyton to changes in current velocity, suspended sediment, and phosphorus concentration. *Freshwater Biol.* 24(2):215-232.

HydroQual. 1991. Draft Water Quality Modeling Analysis of Hypoxia in Long Island Sound. Prepared for Management Committee Long Island Sound Estuary Study and New England Interstate Water Pollution Control Commission. Prepared by HydroQual, Inc., Mahwah, NJ. Job Number: NENG0012. July 1991.

Jirka, G. H., and R.L. Doneker. 1991. Hydrodynamic classification of submerged single-port discharges, *J. of Hydr. Engr.* 117:1095-1112.

Jirka, G.H., and P.J. Akar. 1991. Hydrodynamic classification of submerged multiport-diffuser discharges, *J. of Hydr. Engr.* 117:1113-1128.

Kang, I.S., and L.G. Leal. 1992. Orthogonal grid generation in a 2D domain via the boundary integral technique. *J. Comp. Phys.* 102:78-87.

Kremer, J.N. and S.W. Nixon. 1978. A coastal marine ecosystem: simulation and analysis. *Ecological Studies 24*, Springer-Verlag, New York. 217 pp.

Lebo, M.E. 1991. Particle-bound phosphorus along an urbanized coastal plain estuary. *Marine Chemistry* 34:225-246.

Lee, J.H.W., and V. Cheung. 1990. Generalized Lagrangian model for buoyant jets in a current. *J. Environ. Engrg.* 116:653-662.

Lijklema, L. 1980. Interaction of ortho-phosphate with iron (III) and aluminum hydroxides. *Environmental Science & Technology*, 14(5):537-541.

Madsen, P.A., and J. Larsen. 1987. An efficient finite-difference approach to the mild-slope equation. *Coastal Engr.* 11:329-351.

Mancini, J.L. 1983. A method for calculating effects, on aquatic organisms, of time varying concentrations. *Water Research* 17(10):1355-1362.

Matisoff, G. 1982. Mathematical models of bioturbation, ed. P.L. McCall and M.J.S. Tevesz, pp. 289-330. *Animal-Sediment Relations: The Biogenic Alteration of Sediments*, Plenum Press, NY.

Mellor, G.L., and T. Yamada. 1982. Development of a turbulence closure model for geophysical fluid problems. *Rev. Geophys. Space Phys.*, 20:851-875.

Millero, F.J. 1986. The thermodynamics and kinetics of the hydrogen sulfide system in natural waters. *Marine Chemistry* 18:121-147.

Mobley, C.D., and R.J. Stewart. 1980. On the numerical generation of boundary-fitted orthogonal Curvilinear coordinate systems. *J. Comp. Phys.* 34:124-135.

Morel, F. 1983. *Principles of Aquatic Chemistry.* John Wiley & Sons, New York, NY. 446 pp.

Morse, J.W., F.J. Millero, J.C. Cornwell, and D. Rickard, D. 1987. The chemistry of the hydrogen sulfide and iron sulfide systems in natural waters. *Earth-Science Reviews* 24:1-42.

Moustafa, M.Z., and J.M. Hamrick. 1994. Modeling circulation and salinity transport in the Indian River Lagoon. *Estuarine and Coastal Modeling, Proceedings of the 3rd International Conference*, ed. M. L. Spaulding et al., pp. 381-395. American Society of Civil Engineers, New York.

McIntire, C.C. 1973. Periphyton dynamics in laboratory streams: a simulation model and its implications. *Ecological Monographs.* 43:399-420.

Nixon, S. 1981. Remineralization and nutrient cycling in coastal marine ecosystems. *Estuaries and Nutrients*, ed. Neilson and Cronin. pp.111-138. Humana Press, Clifton, NJ.

NOAA. 1998. Tide Tables 1998. National Oceanographic and Atmospheric Administration, National Ocean Service, Silver Spring, MD.

O'Connor, D.J. and W.E. Dobbins. 1958. Mechanism of reaeration in natural streams. *Transactions of the American Society of Civil Engineers*, 123(2934):641-684.

Odum, E.P. 1971. *Fundamentals of ecology (3rd edition).* W.B. Saunders Co., Philadelphia, PA. 574pp.

Oey, L.-Y., G.L. Mellor, and R.I. Hires. 1985. A three-dimensional simulation of the Hudson Raritan estuary. *J. Phys. Oceanogr.* 15:1676-1720.

Park, K., A.Y. Kuo, J. Shen, and J.M. Hamrick. 1995. A three-dimensional hydrodynamic-eutrophication model (HEM3D): description of water quality and sediment processes submodels, Special Report 327. The College of William and Mary, Virginia Institute of Marine Science. 113 pp.

Parsons, T.R., M. Takahashi, and B. Hargrave. 1984. *Biological oceanographic processes (3rd edition).* Pergamon Press. 330 pp.

Pfeifer, R.F., and McDiffett, W. 1975. Some factors affecting primary production of stream communities. *Archives of Hydrobiol.* 75:306-317.

Redfield, A.C., B.H. Ketchum, and F.A. Richards. 1963. The influence of organisms on the composition of sea-water, ed. M.N. Hill, Chapter 2, pp 26-77. *The Sea - Ideas and Observations on Progress in the Study of the Seas: Vol. 2, Composition of Sea Water, Comparative and Descriptive Oceanography*, Interscience Publishers.

Rennie, S., and J.M. Hamrick. 1992. Techniques for visualization of estuarine and coastal flow fields. *Estuarine and Coastal Modeling, Proceedings of the 2nd International Conference*, ed. M. L. Spaulding et al., pp. 48-55. American Society of Civil Engineers, New York.

Robbins, J.A., T. Keilty, D.S. White, and D.N. Edgington. 1989. Relationships among tubificid abundances, sediment composition and accumulation rates in Lake Erie. *Canadian J. of Fisheries & Aquatic Sciences*, 46(2):223-231.

Rosati, A.K., and K. Miyakoda. 1988. A general circulation model for upper ocean simulation. *J. Phys. Ocean*, 18:1601-1626.

Ross, P.J. 1983. Dynamics of periphyton communities. *Periphyton in Freshwater Ecosystems*, ed. R.G. Wetzel, pp. 5-10. Junk, Boston, MA, 5-10.

Runke, H.M. 1985. Simulation of the lotic periphyton community of a small mountain stream by digital computer. PhD thesis, Utah State University, Logan, Utah.

Ryskin, G. and L.G. Leal. 1983. Orthogonal mapping. *J. Comp. Phys.* 50:71-100.

Sand-Jensen, K. 1983. Physical and chemical parameters regulating the growth of periphyton communities. *Periphyton in Freshwater Ecosystems*, ed. R.G. Wetzel, pp. 63-71. Junk, Boston, MA.

Senior and Koerkle. 2003a. Simulation of streamflow and water quality in the Brandywine Creek subbasin of the Christina River Basin, Pennsylvania and Delaware, 1994-98. U.S. Geological Survey Water-Resources Investigations Report 02-4279, 207pp.

Senior and Koerkle. 2003b. Simulation of streamflow and water quality in the White Clay Creek subbasin of the Christina River Basin, Pennsylvania and Delaware, 1994-98. U.S. Geological Survey Water-Resources Investigations Report 03-4031, 242pp.

Senior and Koerkle. 2003c. Simulation of streamflow and water quality in the Red Clay Creek subbasin of the Christina River Basin, Pennsylvania and Delaware, 1994-98. U.S. Geological Survey Water-Resources Investigations Report 03-4138, 119pp.

Senior and Koerkle. 2003d. Simulation of streamflow and water quality in the Christina River subbasin and overview of simulations in other subbasins of the Christina River Basin, Pennsylvania and Delaware, 1994-98. U.S. Geological Survey Water-Resources Investigations Report 03-4193, 144pp.

Shen, J., J. Boon, and A.Y. Kuo. 1999. A numerical study of a tidal intrusion front and its impact on larval dispersion in the James River estuary, Virginia. *Estuary* 22(3A):681-692.

Smolarkiewicz, P.K., and T.L. Clark. 1986. The multidimensional positive definite advection transport algorithm: further development and applications. *J. Comp. Phys.* 67:396-438.

Smolarkiewicz, P.K., and W.W. Grabowski. 1990. The multidimensional positive definite advection transport algorithm: nonoscillatory option. *J. Comp. Phys.* 86:355-375.

Smolarkiewicz, P.K., and L.G. Margolin. 1993. On forward-in-time differencing for fluids: extension to a curvilinear framework. *Mon. Weather Rev.* 121:1847-1859.

Steele, J.H. 1962. Environmental control of photosynthesis in the sea. *Limnol. and Oceanogr.* 7(2):137-150.

Stevenson, R.J., and Glover, R. 1993. Effects of algal density and current on ion transport through periphyton communities. *Limnol. and Oceanogr.*, 38(6):1276-1281.

Stumm, W. and J.J. Morgan. 1981. *Aquatic chemistry, an introduction emphasizing chemical equilibria in natural waters (2nd edition).* John Wiley & Sons, Inc. 780 pp.

Thomann, R.V., N.J. Jaworski, S.W. Nixon, H.W. Paerl, and J. Taft. 1985. The 1983 algal bloom in the Potomac Estuary. The Algal Bloom Expert Panel, pepared for the Potomac Strategy State/EPA Management Committee, US Environmental Protection Agency, Region III, Philadelphia, PA.

Thomann, R.V. and J.A. Mueller. 1987. *Principles of surface water quality modeling and control.* Harper & Row, Publishers, Inc. 644 pp.

Troup, R. 1974. The interaction of iron with phosphate, carbonate and sulfide in Chesapeake Bay interstitial waters: a thermodynamic interpretation. Ph.D. Dissertation, Johns Hopkins University, MD. 114 p.

USEPA. 1990. *Technical Guidance Manual for Performing Waste Load Allocations, Book III Estuaries, Part 2, Application of Estuarine Waste Load Allocation Models.* EPA823-R-92-003. U.S. Environmental Protection Agency, Office of Water. May 1990.

USEPA. 1995. *Technical Guidance Manual for Developing Total Maximum Daily Loads, Book II: Streams and Rivers, Part 1: Biochemical Oxygen Demand/Dissolved Oxygen and Nutrients/Eutrophication.* EPA 823-B-95-007. U.S. Environmental Protection Agency, Office of Water. September 1995.

USEPA. 2000. Hydrodynamic and water quality model of Christina River Basin. U.S. Environmental Protection Agency, Region III, Philadelphia, PA. December 2000.

USEPA. 2004. Christina River Basin High-Flow TMDLs for Nutrients, Low Dissolved Oxygen, and Bacteria: Data Report (Draft). U.S. Environmental Protection Agency, Region III, Philadelphia, PA. April 30, 2004.

USEPA. 2005. Total Maximum Daily Loads for Nutrients and Low Dissolved Oxygen in the Christina River Basin, Pennsylvania, Delaware, and Maryland. USEPA Region III, Philadelphia, PA. April 8, 2005.

Warwick, J.J., D. Cockrum, and M. Horvath. 1997. Estimating non-point source loads and associated water quality impacts. *ASCE J. Water Res. Plan. and Manage.* 123(5):302-310.

Westrich, J.T. and B.A. Berner. 1984. The role of sedimentary organic matter in bacterial sulfate reduction: the G model tested. *Limnol. and Oceanogr.* 29(2):236-249.

Wezernak, C.T. and J.J. Gannon. 1968. Evaluation of nitrification in streams. *ASCE J. Sanitary Engr. Div.* 94(5):883-895.

Whitford, L.A. and G.J. Schumacher. 1964. Effect of current on respiration and mineral uptake of Spirogyra and Oedogonium. *Ecology* 45:168-170.

Wu, T.S., J.M. Hamrick, S.C. McCutechon, and R.B. Ambrose. 1996. *Benchmarking the EFDC/HEM3D surface water hydrodynamic and eutrophication models. Computational Methods for Next Generation Environmental Models*, ed. G. Delich. Society of Industrial and Applied Mathematics, Philadelphia.

Yamamoto, S., J.B. Alcauskas, and T.E. Crozler. 1976. Solubility of methane in distilled water and seawater. *J. of Chemical and Engineering Data* 21(1):78-80.